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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|---------------------|------------------|
| 10/529,969 | 06/29/2005 | Peter Sant | TS7608 US | 6277 |
| 23632 | 7590 | 12/15/2008 | | |
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| EXAMINER | | | | |
| GERIDO, DWAN A | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1797 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 12/15/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,969

Applicant(s)

SANT ET AL.

Examiner

Dwan A. Gerido, Ph.D.

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 3-31-2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. For claim 10, it is unclear as to what applicant regards as an electronic tongue. For purposes of examination, electronic tongue will be regarded as any device capable of detecting a substance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Rutledge et al., (US 5,928,954).
6. For claims 1-3, and 5 Rutledge et al., teach a lubricating oil composition (abstract, column 16 lines 12-14) comprising passive markers (column 8 lines 24-32, column 10 lines 46-52) which are being read as both a molecular species, and microparticles. The fluorescent dyes as taught by Rutledge et al., are identical to that of the instant claims; therefore it is an inherent

feature of the lubricating oil composition that the markers are capable of detection in a machine during operation of the machine.

7. Claims 7-9, 15, and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Coates 7,339,657).

8. For claim 7, Coates teaches a machine comprising a detector (column 6 lines 38-43) capable of detecting a passive marker in a lubricating oil (column 16 lines 65-67) while the machine is on or running.

9. For claim 8, Coates teaches the machine having an electronic control unit (column 6 lines 47-49).

10. For claim 9, Coates teaches the machine having a sensor that indicates the state of lubricating oil (column 6 lines 38-43).

11. For claims 15 and 16, Coates teaches a method of operating a machine comprising providing a lubricating oil to a machine (column 16 lines 52-54), a detector (column 6 lines 38-43), and electronic control unit (column 6 lines 47-49), detecting a passive marker thereby providing data about the lubricating oil (column 16 lines 65-67), and passing a signal from the detector to the electronic unit, and processing the transmitted signal (column 6 lines 49-52).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al., (US 5,928,954).

16. With regards to claims 13 and 14, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize markers sized to be permeable or impermeable to an oil filter in order to provide different placement positions for a sensor, and to provide multiple sites of detecting a marker in order to gain more accurate results by providing independent sensors for detecting markers in lubricating oils.

17. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al., (US 5,928,954) in view of Chandler (WO 99/52708).

18. With regards to claim 2, Rutledge et al., teach a lubricating oil composition (abstract, column 16 lines 12-14) comprising passive markers (column 8 lines 24-32, column 10 lines 46-52). Rutledge et al., do not teach the passive markers as microparticles.

Chandler teaches a method of labeling liquids with fluorescent microparticles wherein the particles are magnetic. (Abstract). Chandler teaches that it is advantageous to utilize multiple discriminators (fluorescence, magnetic) as a means of providing multiple unique labels for a particular liquid. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rutledge et al., in view of Chandler in order to provide multiple means of evaluating lubricating oil as taught by Chandler.

19. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al., (US 5,928,954) or Coates (US 7,339,657) in view of Janata (US 6,128,561).

20. With regards to claims 10 and 12, Rutledge et al., or Coates does not teach a machine or lubricating oil comprising an electronic nose or odorant molecules.

Janata teaches a self diagnostic system for lubricating oils wherein an electronic nose is utilized to determine the state of lubricating oils (column 4 lines 57-60). The system of Janata comprises an electronic nose; therefore the system must also comprise an odorant for detection by the electronic nose. Janata teaches that it is advantageous to utilize an electronic nose so as to ascertain a three dimensional indication of the state of lubricating oils. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rutledge et al., or Coates in view of Janata in order to recognize deterioration patterns in lubricating oils as taught by Janata.

21. Claims 11, 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Coates (US 7,339,657).
22. With regards to claims 11, 18, and 19, Coates does not explicitly teach a pH sensor as a detector capable of determining the state of lubricating oil in a machine. Coates does recite utilizing a dye in a lubricating oil to determine the acidity of the oil during use, and a sensor capable of modeling an acid value based on the dye (column 17 line 65 – column 18 line 8). Utilizing a pH sensor provides the advantage of measuring pH directly instead of an indirect method wherein pH is determined based on a component of the lubricating oil. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Coates by utilizing a pH sensor in order to provide a direct method of determining the state of a lubricating oil based on its acid-base content.
23. With regards to claims 17 and 20, Coates does not explicitly teach a method wherein data is used to determine when an oil change is required, nor does he teach utilizing set values to determine when an oil change is required. Coates does teach a method wherein the outputs from sensors are color coded to indicate the overall state of lubricating oil (column 4 lines 46-54). Coates also recites an alpha numeric display which can be compared to warranty standards (column 4 lines 46-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the data to indicate the need for an oil change in order to provide a color coded or alpha numeric display to indicate whether lubricating oils require changing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwan A. Gerido, Ph.D. whose telephone number is (571)270-3714. The examiner can normally be reached on Monday - Friday, 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAG